Textile, Apparel, and Furnishings Occupations

Apparel Workers

(O*Net 89502A, 89502D, 89505A, 89505B, 92717, 92721, 92728, 93921, 93923B, and 93926E)

Significant Points

- Most workers are trained on the job; those in firms that emphasize teamwork are trained in all operations performed by their team.
- Employment of apparel workers is expected to decline due to increased imports, offshore assembly, and laborsaving machinery.
- Earnings of most apparel workers are low.

Nature of the Work

Apparel workers help keep us warm, comfortable, and in style. They play this important role in our lives by transforming cloth, leather, and fur into clothing and other consumer products. Many apparel workers also repair and alter these products. (Some items that we think of as apparel, such as socks or pantyhose, are produced in knitting mills. Workers who are employed in these factories are classified as textile rather than as apparel workers. A separate statement on textile machinery operators is presented in this section of the *Handbook*.)

Apparel production begins with a designer's creation that has been made into a sample product. Because many apparel items are mass-produced, the sample must be converted into a pattern, a step which is usually done with the aid of a computer. After a design is made, sample makers produce the sample garment for the designer. (A separate statement on designers is presented elsewhere in the *Handbook*.)

Once the pattern has been created, the fabric must be spread and cut. Many layers of material may be spread on the cutting table, depending on the quantity being produced and the type of material. Workers known as markers must determine the best arrangement or layout of the pattern pieces to minimize waste. In many plants, this step depends on the judgment of the worker, but computers increasingly determine the optimum arrangement of the pattern pieces.

Using an electric knife or other cutting tool, other workers cut out the various pieces of material following the outline of the pattern. On especially delicate or valuable items, this may be done by hand. Workers must pay close attention to detail because a mistake in the cutting process can ruin many yards of material. In more automated firms, electronic copies of layouts are sent to computer-controlled cutting machines that are monitored by cutting machine operators.

Once the material has been cut, it is ready to be sewn together into a shirt, knapsack, dress, or other product. Most sewing is done by sewing machine operators, who are classified by the type of machine and product on which they work. The most basic division is between sewing machine operators who produce clothing and those who produce nongarment items such as towels, sheets, and curtains. Both garment and nongarment machine operators usually specialize in a single operation, such as bindings, collars, or hems. Because each product requires a variety of sewing operations that cannot be done on the same machine, companies producing apparel have many types of specialized sewing machines.

Some materials may be sewn by hand rather than by machine due to their value and delicacy. Hand sewers may specialize in a particular operation, such as sewing buttonholes or adding lace or other trimming. They also work with the designer to make a sample of a new product. When sewing operations have been completed, workers remove loose threads, basting stitching, and lint from the finished product.

Although final inspection of the product is usually done at this time, inspectors are found in all stages of the production process. They mark defects in uncut fabric so that layout workers can position the pattern to avoid them. When they find defects in semi-finished garments, they may repair the garments themselves or send them back to be mended. (For a more detailed discussion, see the statement on inspectors, testers, and graders elsewhere in the *Handbook*.)

Pressers ensure that finished products are free of wrinkles. Some pressers specialize in a particular garment part; others do the final pressing before the product is shipped to the store. Specially designed steam-pressing machines, which are much more productive than hand pressing, usually do the final pressing.

A large number of apparel workers are employed by small firms that lack the resources to invest in new, more efficient equipment. Because of this and the difficulty of automating the assembly process, the nature of the work for many apparel workers has remained relatively unchanged. Nevertheless, in larger firms with modern facilities, some operations are computerized, and many product-moving operations are performed by automated material handling systems.

In addition, many firms now use another workplace innovation—the modular manufacturing system—to increase product quality while reducing production time. In this system, operators work together in a module or team. Although each worker in the modular system usually

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specializes in one operation, most are trained to perform all of the operations performed by their team so that they can substitute for other workers. Not only do operators communicate more with other workers in the new system, they are given added responsibilities, such as correcting problems, scheduling, and monitoring standards.

Because some people require or prefer clothing made especially for them, not all apparel goods are mass-produced. For these people, custom tailors make garments from start to finish by taking measurements and helping the customer select the right fabric and design. These workers are highly skilled and must be capable in all phases of clothing production.

Many other custom tailors and sewers work in retail outlets, including laundries and dry-cleaning establishments, where they make alterations and adjustments to ready-to-wear clothing. In some establishments, these workers specialize in one function, such as altering jackets or shortening pants. They may also perform other duties, such as taking measurements or pressing garments.

Working Conditions

Working conditions in apparel production vary by establishment and by occupation. Older factories tend to be congested and poorly lit and ventilated, but more modern facilities are usually better planned, have more work space, and are well-lit and ventilated. Due to the nature of the work and the machinery being used, sewing and pressing are usually noisy and occasionally hot, whereas patternmaking and spreading areas are quieter. Laundries and dry-cleaning establishments are often hot and noisy; retail stores, on the other hand, tend to be relatively quiet and comfortable.

Most persons in apparel occupations work a standard 5-day, 35- to 40-hour week. Some apparel manufacturers add second shifts to justify the expense of new machinery. Those employed in retail stores and in laundry and dry-cleaning establishments may work evenings and weekends.

Work in apparel production can be physically demanding. Some workers sit for long periods, and others spend many hours on their feet, leaning over tables and operating machinery. In some instances, new machinery and production techniques have decreased the physical demands upon workers. For example, newer pressing machines are now operated by foot pedals or computer controls and do not require much strength to operate. Although there are no life-threatening dangers or health hazards associated with work in apparel, operators must be attentive while running equipment such as sewing machines, pressers, and automated cutters. A few workers wear protective devices such as gloves.

While much of the work in apparel is still based on a piecework system that allows for little interpersonal contact, some apparel firms are placing more emphasis on teamwork and cooperation. In this new system, individuals work closely with one another and each team or module often has managerial authority over itself, increasing the overall responsibility of each operator.

Employment

Apparel workers held 730,000 jobs in 1998. The following tabulation shows that about 7 out of 10 were sewing machine operators:

Garment sewing machine operators	369,000
Nongarment sewing machine operators	137,000
Custom tailors	74,000
Pressing machine operators	69,000
Hand cutters and trimmers	42,000
Patternmakers and layout workers	16,000
Hand pressers	13,000
Hand sewers	10,000

Production jobs are concentrated in California, New York, North Carolina, Pennsylvania, Tennessee, and Georgia. Most of these jobs are in the apparel and textile industries, except for pressers and custom tailors. Although pressing operations are an integral part of the apparel production process, more than one-half of all pressers are employed in the laundry and dry-cleaning industry. More than one-half of all custom tailors work in retail clothing establishments, and many others are self-employed. For both of these occupations, jobs are found in every part of the country.

Training, Other Qualifications, and Advancement

Training requirements vary by industry. Few employers in the apparel industry require production workers to have a high school diploma or previous work experience. Nevertheless, entrants with secondary or postsecondary vocational training or previous work experience in apparel production usually have a better chance of getting a job and advancing to a supervisory position.

Retailers prefer to hire custom tailors and sewers with previous experience in apparel manufacture, design, or alterations. Knowledge of fabrics, design, and construction is very important. Although laundries and dry cleaners prefer entrants with previous work experience, they routinely hire inexperienced workers.

In general, apparel workers need good hand-eye coordination and the ability to perform repetitive tasks for long periods. Knowledge of fabrics and their characteristics is sometimes required.

Regardless of setting, workers usually begin by performing simple tasks. As they gain experience, they are assigned more difficult operations. Further advancement is limited, however. Some production workers may become first-line supervisors, but the majority remains on the production line. Occasionally, a patternmaker may advance to designer, but usually only after additional training at a design school. Some experienced custom tailors open their own tailoring shop. Custom tailoring is a very competitive field, however, and training in small business operations can mean the difference between success and failure.

Machine operators are usually trained on the job by more experienced employees or by machinery manufacturers' representatives. As machinery in the industry continues to become more complex, some apparel workers will need training in the basics of computers and electronics. In addition, the trend toward cross-training of operators will increase the time needed to learn different machines, and the rise of modular manufacturing will require workers to acquire the interpersonal skills necessary to work effectively as part of a team.

Job Outlook

Employment of apparel workers is expected to decline through 2008. Apparel workers have been among the most rapidly declining occupational groups in the economy, and increasing imports, the use of offshore assembly, and greater productivity through new automation will contribute to additional job losses. Because of the large size of this occupation, however, many thousands of job openings will arise each year from the need to replace persons who transfer to other occupations, retire, or leave the occupation for other reasons.

Employment in the domestic apparel industry has declined in recent years as foreign producers have gained a greater share of the U.S. market. Imports now account for roughly half of domestic apparel consumption, and this share is expected to increase as the U.S. market is opened further by the North American Free Trade Agreement (NAFTA) and the Agreement on Textiles and Clothing (ATC) of the World Trade Organization. NAFTA allows apparel produced in Mexico and Canada to be imported, duty-free, to the United States. A number of apparel companies have already moved their production facilities to Mexico to reduce costs, and this trend is expected to continue. The ATC will result in the elimination of quotas and a reduction in tariffs for many apparel products. As this agreement is phased in through 2005, domestic production will continue to move abroad and imports into the U.S. market will increase, causing further decline in employment of apparel workers in the United States.

To avoid losing more of the market, domestic manufacturers are developing the ability to take advantage of their proximity to the U.S. market by responding more quickly to changes in market demand. This is especially important in high-fashion items with rapidly changing demand. U.S. producers are able to use computers and electronic data

interchange to closely monitor the sales of the items that they produce and to respond quickly to diminishing inventories. They are, therefore, able to keep retailers stocked with the most popular items and to reduce production of apparel that is not selling well. Because of fierce competition in the market for apparel and the growing demands of large retailers, however, apparel firms will continue to be under intense pressure to cut costs and produce more with fewer workers.

Despite advances in technology, it has been difficult to use automated equipment extensively in the apparel industry due to the soft properties of textile products. In addition, it is time consuming and expensive to adapt existing technology to the wide variety of items produced and the frequent style and seasonal changes. However, some larger firms and those that produce standardized items have automated pre-sewing functions, material handling, and some simple sewing procedures. Technological developments, such as computer-aided marking and grading, computer-controlled cutters, semiautomatic sewing and pressing machines, and automated material handling systems have increased output while reducing the need for some workers in larger firms. As the apparel industry continues to restructure and consolidate, more of the smaller, less efficient producers will lose market share to larger firms and foreign producers.

Another practice that will influence employment levels is the use of offshore assembly. A provision in U.S. tariff regulations reduces tariffs on apparel imports from Caribbean nations that are assembled from pieces of fabric which were cut in the United States. This enables the most labor-intensive step in the production process—assembly—to be performed at much lower wage rates. This trend is expected to continue and will curtail job opportunities for sewing machine operators in the United States. Because many pre-sewing functions such as design will continue to be done domestically, however, workers who perform these functions will not be as adversely affected.

Custom tailors and sewers, the most skilled apparel workers, are also expected to experience declining employment. Demand for their services will continue to lessen as consumers are increasingly likely to buy new, mass-produced apparel instead of purchasing custom-made apparel or having clothes altered or repaired.

Earnings

Earnings of apparel workers vary by industry and occupation. Median hourly earnings of the largest group of apparel workers—garment sewing machine operators—were $7.09 in 1998. Most of these workers earned between $5.99 and $8.43. Median hourly earnings in the industries that employed the most garment sewing machine operators in 1997 were:

Knitting mills	$7.32
Miscellaneous fabricated textile products	7.22
Men's and boys' furnishings	6.99
Women's and children's undergarments	6.34
Women's and misses' outerwear	6.07

Sewing machine operators who assembled nongarment items had slightly higher earnings in 1998. Median hourly earnings were $8.17, with most of these workers earning between $6.67 and $9.84. Earnings in the industries that employed the largest number of nongarment sewing machine operators in 1997 were:

Household furniture	$8.99
Miscellaneous fabricated textile products	7.86

Earnings also varied among other apparel workers. Pressing machine operators had median hourly earnings of $7.28 in 1998, while patternmakers and layout workers earned about $10.38. Among hand workers, cutters and trimmers earned $8.23, pressers earned $7.09, and sewers earned $7.46 an hour. Finally, custom tailors earned a median annual income of $18,630 in 1998. Because many production workers in apparel manufacturing are paid according to the number of acceptable pieces they or their group produce, their total earnings depend on skill, speed, and accuracy.

Benefits also vary. A few large employers, for example, include child care in their benefits package. Apparel workers in retail trade also may receive a discount on their purchases. In addition, some of the larger manufacturers operate company stores, where employees can purchase apparel products at significant discounts. Some small firms, however, offer only limited benefits. In addition to employer-sponsored benefits, the principal union—the Union of Needletrades, Industrial, and Textile Employees (UNITE)—provides benefits to its members.

Related Occupations

The duties of apparel workers vary from those requiring very little skill and training to those that are highly complex, requiring several years of training. Workers operating machinery and equipment, such as pressing or sewing machine operators, perform duties similar to metalworking and plastics-working, textile, and shoe sewing machine operators. Other workers who perform handwork are precision woodworkers, precision assemblers, upholsterers, and shoe and leather workers.

Sources of Additional Information

Information regarding careers in apparel is available from numerous technical institutes that offer specialized textile and apparel programs. A list of these can be found in college guides. In addition, the local office of the State employment service or an apparel manufacturer can provide information on job opportunities in a specific area.

For general information on the apparel industry, contact:

☛ American Apparel Manufacturers Association, 2500 Wilson Blvd., Suite 301, Arlington, VA 22201.
Internet: **http://www.americanapparel.com**

Shoe and Leather Workers and Repairers

(O*Net 89511)

Significant Points

- Workers generally learn their craft on the job; trainees become fully skilled in 6 months to 2 years.
- Employment is expected to decline, reflecting increases in imports, laborsaving machinery, and business costs.

Nature of the Work

Shoe and leather workers create stylish and durable leather products, such as boots, saddles, and luggage. Although they produce different goods, shoe and leather workers share many tasks. For example, they first check the texture, color, and strength of the leather. They then place a pattern of the item being produced on the leather, trace the pattern onto the leather, cut along the outline, and sew the pieces together. Other steps may vary according to the type of good being produced.

Orthopedic and therapeutic shoemakers, for instance, make or modify footwear according to a doctor's prescription. These workers attach the insoles to shoe lasts (a wooden form shaped like a foot), affix the shoe uppers, and apply heels and outsoles. These shoemakers then shape the heels with a knife and sand them on a buffing wheel for smoothness. Finally, they dye and polish the shoes. Custom shoe workers also may modify existing footwear for people with foot problems and special needs. This can involve preparing inserts, heel pads, and lifts from casts of customers' feet.

In addition to the common steps listed above, *saddlemakers* often apply leather dyes and liquid top coats to produce a gloss finish on a saddle. They may also decorate the saddle surface by hand stitching or by stamping the leather with decorative patterns and designs. *Luggage makers* fasten leather to a frame and attach handles and other hardware. They also cut and secure linings inside the frames and sew or stamp designs onto the luggage exterior.